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SSRC - Research

The Cooperative State Research Service

Coordination of State and Federal Research

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Ag 84 Pro
no. 1308



United States
Department of
Agriculture

PREPARED BY
Cooperative
State Research
Service

Program Aid
Number 1308

The Cooperative State Research Service

Role of Cooperative Research

A major challenge facing research today is how the Nation's technology base can be maintained and improved in order to increase agricultural productivity.

For more than 100 years, the Nation's publicly supported agricultural research system has contributed to the efficiency and productivity of American agriculture. This research system has provided new crops, greater soil fertility, genetically improved animals, better marketing systems, and improved rural life while minimizing losses from pests and diseases and adversities of climate and weather.

The research system has two parts—Federal in-house research, and State research based mainly in the land-grant universities. The major link in this partnership is the Cooperative State Research Service (CSRS), an agency of Science and Education, USDA, which administers certain Federal funds for State researchers in agriculture and forestry and coordinates research among the States and Federal agencies.

CSRS works directly with the State agricultural experiment stations, the forestry schools, the land-grant colleges of 1890, Tuskegee Institute, and colleges of veterinary medicine. These organizations have over 12,000 scientists engaged in more than 24,000 research projects.

CSRS staff also work with many other State and Federal organizations involved in agricultural and forestry research. Thus, CSRS is in a unique position to know both Federal and State research and their research units, and to serve as a coordinating and communicating link for the entire cooperative State-Federal agricultural research system.



Agriculture and Forestry Research System

The State institutions that receive research funding through CSRS conduct about 60 percent of the publicly supported agricultural and forestry research in the United States.

Every State, the District of Columbia, Guam, the Virgin Islands, Puerto Rico, Micronesia, and American Samoa all have at least one agricultural experiment station.

Experiment stations usually have several branch stations and substations so that problems specific to a particular area can be researched on the spot.

The State research units conduct research directed at specific problems (applied research) as well as research aimed at generating fundamental knowledge essential to the solution of applied problems (basic research).

The objectives of State research in agriculture and forestry include—

- Ensuring a stable, productive agriculture through wise use of soil, forest, range, and water resources.
- Protecting forests, crops, and livestock from insects, diseases, and other hazards.
- Ensuring enough agricultural and forest products at decreasing real production costs.
- Expanding agricultural and forest product demand by developing new and improved products, processes, and product quality.
- Improving market efficiency.
- Helping solve the Nation's energy crisis.
- Protecting the health of the American people and improving their nutrition and well-being.
- Helping rural Americans to improve their level of living.

Research programs at the State experiment station often involve cooperation with other State experiment stations, with other Federal and State agencies, and with industry and foundations.

Collectively and individually, the State agricultural experiment stations and other cooperating State research units are major contributors to the success of American agricultural research and development.

Formula Funding

CSRS administers several Federal formula funding programs to more than 100 State institutions. Formula funds are appropriations approved by Congress and allocated to eligible institutions by statutory formula or by an administratively determined formula approved by the Secretary of Agriculture.

These Federal formula funds help maintain the basic and applied research programs of these State research units and foster cooperation among State research units and between the States and their Federal research partners. The funds provide a solid base of financing essential for maintaining high-quality research programs in agriculture and forestry.

Appropriations by State legislatures are the principal source of funding for most experiment station research—over 80 percent as a national average. Additional research support is supplied by grants from foundations and farm and other agricultural organizations.

The principal acts allocating Federal funds administered by CSRS include:

- *The Hatch Experiment Station Act* (Public Law 84-352) provides for at least one experiment station in each State to conduct research "basic to the problems of agriculture in its broadest sense...." Hatch Act appropriations support research for agriculture, forestry, and rural life generally. The Hatch Act funds are the largest of those that CSRS administers.

The Hatch Act, as amended in 1955, set that year's appropriations as a fixed base, stating that sums in excess of that level would be distributed according to the relative rural and relative farm populations of each State compared with totals in these categories for all States.

In addition, States are to match research funds available for allotment in excess of \$90,000, except for funds allocated for regional research.

Programs under the Hatch Act are aimed at improving and promoting the efficient production, marketing distribu-



tion, and use of crops and livestock essential to the food supply or health and welfare of Americans.

- *The McIntire-Stennis Cooperative Forestry Research Act* (Public Law 87-788), passed by Congress in 1962, supports forestry research. Sixty institutions participate in this program, over half of which are connected with the State agricultural experiment stations. The Act provides for forestry research and the development of a trained pool of forestry scientists and managers. More than 800 scientists conduct forestry research under this Act.

Key elements in this research are timber production, wood use, and distribution. Emphasis is also placed on forest-range management, wildlife habitat maintenance, and environmental improvement in recreation areas.

- *Public Law 95-113, Sec. 1445*, provides research funding through CSRS for the 16 land-grant colleges of 1890 and Tuskegee Institute. Research directors administer agricultural research at these historically black land-grant institutions. Some priority research areas are human nutrition, small farm production, human resources, energy, and transportation.

- *Public Law 89-106* is the law under which CSRS administers a special grants program (as amended by Public Law 95-113) for basic and applied research at nonprofit institutions of higher education or nonprofit organizations. Funds are provided for high-priority regional or national research in such areas as genetic improvement of crops, development of integrated pest management systems, improvement of semiarid rangelands, and increased understanding of human nutrient requirements.

- *Public Law 89-106* (amended by P.L. 95-113 and P.L. 92-224) also provides funding for a competitive basic research grants program which permits outstanding researchers in the United States to submit proposals for research critical to food production and human nutrition.

Under this competitive grants program, research is now being conducted in photosynthesis, biological nitrogen fixation, genetic mechanisms for crop improvement, human nutrition, and biological stress of plants.

- *Public Law 95-113, Secs. 1433 and 1434*, provides Federal funding to State agricultural experiment stations and 28 eligible schools and colleges of veterinary medicine for their research in animal health and disease.

Regional-National Planning

A major responsibility of CSRS is the coordination of cooperative State-Federal research, CSRS scientists work with various regional and national groups to help set research priorities.

As part of a formal research planning system, CSRS staff members serve on the many technical research committees in the Nation's four regions. These committees plan and conduct research that involves the scientists of two or more States. CSRS scientists also serve on work groups, task forces, and advisory committees.

Scientists and administrators from the cooperating State research institutions and various Federal agricultural research installations meet at least once a year in four regional research planning groups. At these meetings, research plans are shared, and regional priorities are identified.

CSRS supports regional research through the Committee of Nine, made up of eight experiment station directors and a home economics research administrator. This body, established by the Hatch Act, recommends regional proposals and fund allocations for this research.

A group that represents the State agricultural experiment stations, schools of forestry, and land-grant colleges of 1890 in all matters is the Experiment Station Committee on Organization and Policy (ESCOPE). CSRS staff work closely with this key committee of State research administrators concerning appropriations, priorities, and other important research administration matters.

At the national level, two other groups have roles in agricultural research planning—

- *The Joint Council on Food and Agricultural Sciences.* The Council is composed of Federal and State research administrators in agriculture and forestry and of members of private organizations and groups. The Council provides leadership in establishing national policy in food and the agricultural sciences.

Under the Council, the National Agricultural Research Committee is comprised of USDA and State research administrators. The Committee accomplished national research planning and reviews priorities determined by a system of regional research committees. The Committee also fosters cooperation between regions.

- *The National Agricultural Research and Extension Users Advisory Board.* The Board, representing producers and consumers and many other groups that use and benefit from agricultural research and extension, advises the Secretary of Agriculture on funding priorities.

Supplementing this structure for coordination and planning are local and State advisory groups that communicate research needs to State scientists and research administrators. These include commodity advisory boards, and other consumer and industry groups.

This total research planning system, then, allows for shifting emphases as new research needs arise, and includes considerable joint planning to solve mutual problems and concerns.



Evaluating Research

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CSRS scientists review formula-funded proposed research and research in progress.

Proposed research is critically reviewed first through a local peer review system. Then there is a second review by CSRS scientists. Proposals that are approved for funding by CSRS are entered into the computerized Current Research Information System (CRIS) that contains records on practically all current publicly supported agricultural and forestry research.

In addition, CSRS scientists conduct onsite reviews of research of all federally funded research projects and most State projects, once every 5 years. This project-by-project review focuses on current and recently completed research.

Special reviews help State research units plan their research programs for the next 5 or more years.

Special Assignments

At times, CSRS scientists must provide the Congress with materials concerning agricultural research. CSRS staff members also contribute to the writing and development of legislation important to agriculture and forestry.

CSRS interdepartmental and interagency efforts involve such major societal concerns as world food needs, environmental impact of pesticides, development of solar energy, and mineland reclamation.

The cooperative State-Federal research partnership has taken its strength from keeping research close to people and their problems. The payoff from this research is consistently 30 to 50 percent per dollar invested. Keeping this agricultural research system strong and productive is important, now and in the future. The Cooperative State Research Service is essential to accomplishing this vital mission.



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Issued February 1983